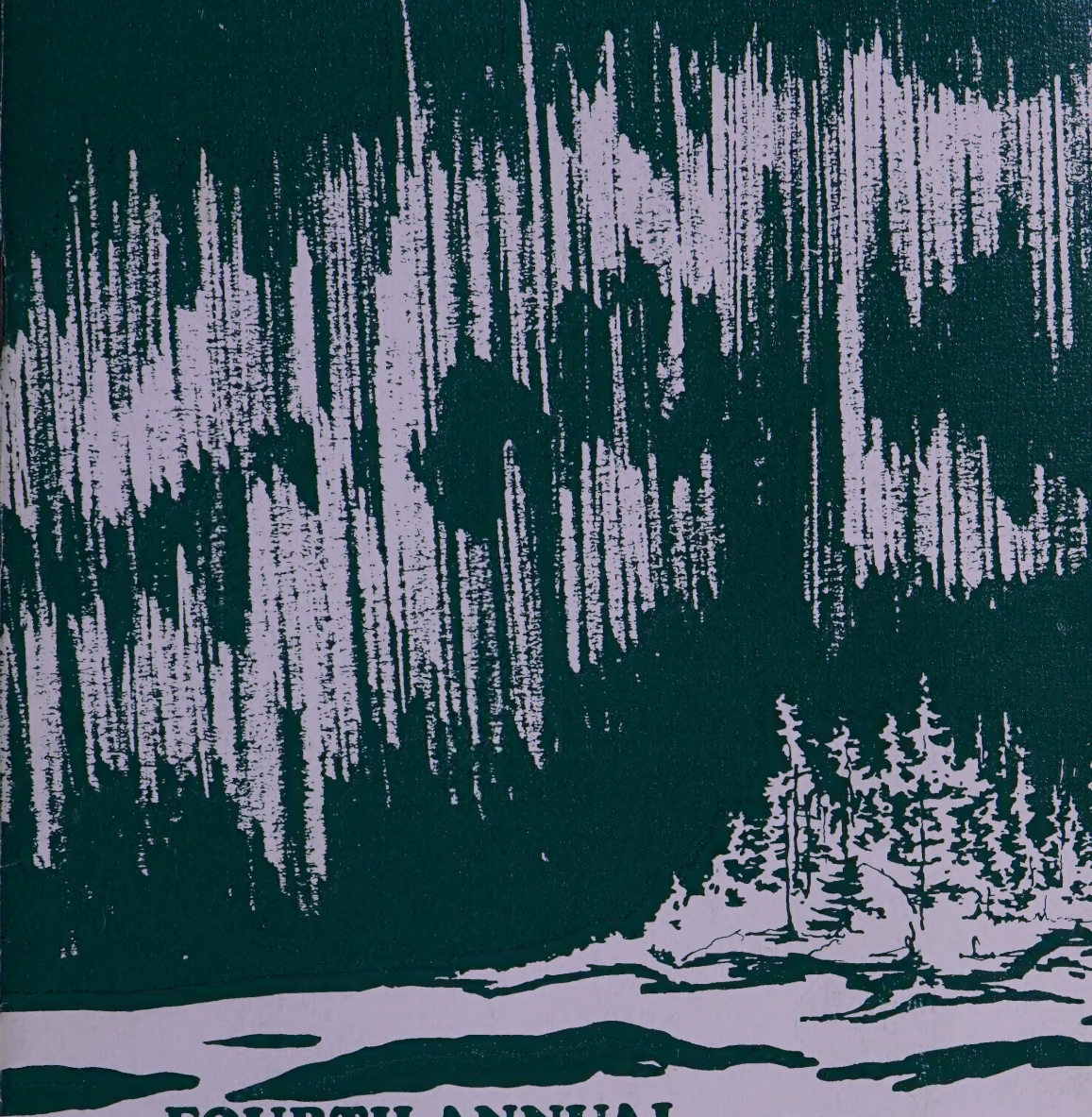

FOURTH ANNUAL ARCTIC SUMMER SCHOOL

JUNE 29 to JULY 12, 1974 INUVIK, N.W.T.

Arranged and organized by the

Boreal Institute for Northern Studies
and the Department of Extension
The University of Alberta

with the co-operation of the

Government of the Northwest Territories

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POLARPAM

The School

The Arctic Summer School was conceived as a program which would meet the needs of management and professional people in private and public organizations who wish to know more about environmental conditions in Northern Canada. It was originally developed as an interdisciplinary course designed to help the participants clarify their perceptions of northern conditions and improve their ability to make better decisions and recommendations on matters affecting the North. The design of the 1974 course is again based on the philosophy that knowledge about northern conditions is an essential ingredient of good operating decisions—decisions which are not only good economically but also which are good from the standpoint of their effects on the environment.

The School is held in Inuvik with all participants in residence there for the first two weeks of July. Resource people at the School include specialists from government and from the academic and business worlds, as well as knowledgeable northern residents. There are classroom sessions, field trips and plenty of formal and not so formal discussions. The schedule is busy because this is a two-week "immersion" course for people who really want to roll up their sleeves and learn something about the North.

The Plan

Four major subject areas form the basis of the School's curriculum.

- People; their origins, ways in which they make a living, factors affecting their attitudes toward development, the structure of government and other local institutions.
- Geography and Geology; the land and the climate, proven and potential nonrenewable resources and why they are there.
- Ecology; life systems and the interdependence between different life forms, important northern plant and animal species, effects of man-made changes on various life forms.
- Engineering; the effect of cold on man's various activities, permafrost, construction, utilities, transportation, resource exploration.

It is intended that all participants at the School, both students and staff, work together in a colleague relationship, examining both the specialized subject matter and the interrelations between the various disciplines. The residential nature of the School provides plenty of opportunity for informal discussions so that students can examine the interactions between economic and environmental matters and develop personal models for applying the theory learned to their particular vocations.

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The 1974 Arctic Summer School will begin on Saturday evening, June 29, and end at noon on Friday, July 12. This schedule will tie in with PWA flights leaving Edmonton the afternoon of June 29 and leaving Inuvik the afternoon of July 12. School activities will be scheduled for each day between the above dates. There will be some free time for reading and recreation, but anyone desiring a full free day or more should plan to stay in Inuvik after July 12.

A tentative schedule of School activities is included in this brochure and it gives a fairly comprehensive idea of the subject matter to be covered. Some background reading material will be supplied to registrants including a special publication entitled "Arctic Summer School Notes". Much of the material being presented will be current and unpublished except in mimeographed form. Some background lectures will be presented to the entire class, but workshops, seminars, field trips and special lectures will be conducted in smaller groups to ensure ample opportunity for questions and discussion.

For the 1974 School a wider choice of field trip activity will be available and participants will be asked to make a choice when their application for registration is accepted. On some occasions there will be parallel lecture and seminar sessions which will require the student to choose the topic of greater interest.

Instructional and Administrative Staff

Dr. Mike Asch, Assistant Professor, Department of Anthropology, The University of Alberta

Dr. E. A. (Ken) Babcock, Assistant Professor, Department of Geology, The University of Alberta

Dr. Larry Bliss, Professor, Department of Botany, The University of Alberta

Dr. Don Gill, Director, Boreal Institute for Northern Studies, The University of Alberta

Dr. Charles (Chuck) Hobart, Professor, Department of Sociology, The University of Alberta

Dr. John Holmes, Professor, Department of Zoology, The University of Alberta

Dr. Richard St. J. Lambert, Professor and Chairman, Department of Geology, The University of Alberta

Dr. Arthur Pearson, Research Scientist, Canadian Wildlife Service, Edmonton

Mr. Gerry Rempel, Arctic Coordinator, Imperial Oil Limited, Calgary

Dr. John Shaw, Associate Professor, Department of Geography, The University of Alberta

Dr. Stan Thomson, Professor, Department of Civil Engineering, The University of Alberta

In addition to the above faculty who will be in residence at the School, the following is a partial list of those who will present special topics.

Mr. G. B. Armstrong, Regional Director of Resources, Department of Indian and Northern Affairs, Yellowknife

Dr. T. Barry, Research Scientist, Canadian Wildlife Service, Edmonton

Mr. R. Hill, Manager, Inuvik Research Laboratory, Department of Indian and Northern Affairs, Inuvik

Mr. J. Hnatiuk, Senior Project Engineer, Gulf Oil Canada Limited, Calgary

Dr. G. H. La Roi, Associate Professor, Department of Botany, The University of Alberta

Father R. LeMeur, o.m.i., Grandin College, Fort Smith

Dr. H. Lewis, Chairman, Department of Anthropology, The University of Alberta

Dr. A. Martell, Research Associate, Boreal Institute for Northern Studies, The University of Alberta

Dr. N. R. Morgenstern, Professor, Department of Civil Engineering, The University of Alberta

Dr. D. Pimlott, Canadian Arctic Resources Committee, Ottawa

Dr. W. Sara, Northern Medical Services, Department of National Health and Welfare, Inuvik

Dr. I. Stirling, Research Scientist, Canadian Wildlife Service, Edmonton

Mr. I. Stewart, Regional Director, Government of the Northwest Territories, Inuvik

Dr. A. R. Thompson, Faculty of Law, The University of British Columbia

Mr. N. McPherson, Director, Department of Education, Government of the Northwest Territories, Yellowknife

Arrangements and Costs

Participants will leave Edmonton on Saturday afternoon, June 29, on one of PWA's regular scheduled flights to Inuvik. Arrangements have been made for a group booking at a return fare of $240.00. Everyone on this group rate will have to go north with the group, but they will have the option of returning at another time if they wish.

Accommodation in Inuvik will be provided in the Department of Education's Residential Center, Grollier Hall. The residence is very comfortable and includes excellent recreational facilities. However, individual privacy is somewhat limited as several participants share each of the large rooms. Classes will be held in the Samuel Hearne High School which is adjacent to Grollier Hall.

The course fee, inclusive of instruction materials, lodging and meals, and field trips is $960.00 (Canadian funds). Transportation to and from Inuvik is extra—$240.00 (Canadian funds) if the group flight is used.

	SATURDAY June 29	SUNDAY June 30	MONDAY July 1	TUESDAY July 2	WEDNESDAY July 3	THURSDAY July 4	FRIDAY July 5
MORNING		Northern People General Geology	Foundation Design Municipal Engineering	Field Trips ——— Mackenzie Delta Inuvik and Mackenzie Highway Tuktoyaktuk		Thermal Regimes Boreal Forest Ecology	Field Trips ——— Mackenzie Delta Inuvik and Mackenzie Highway Tuktoyaktuk Flyover Airphoto Workshop
AFTERNOON	Arrive Inuvik	Permafrost Fundamentals Periglacial Geomorphology	Mackenzie Delta Environment and Ecology	Sociology Workshop		Geology Site Investigations	
EVENING	Northern People	Periglacial Geomorphology ——— Anthropology Seminar	Northern Mammals ——— Anthropology Seminar	Small Group Workshops Offshore Oceanographic Conditions		Territorial Government Panel	Site Investigation Workshop

	SATURDAY July 6	SUNDAY July 7	MONDAY July 8	TUESDAY July 9	WEDNESDAY July 10	THURSDAY July 11	FRIDAY July 12
MORNING	Field Trips Mackenzie Delta Tuktoyaktuk Flyover	Ecosystems Roads and Airstrips	Tundra Ecology Education in the North	Field Trips Mackenzie Delta Fort McPherson Aklavik Arctic Islands Seminars		Northern Health Native Land Rights	Ocean Mammals Ecological Modifications by Man
AFTERNOON	Airphoto Workshop	Northern Birds Federal Government	Transportation Petroleum Engineering	Airphoto Workshop		Petroleum and Gas Development —reserves —pipelines —economics	Leave for Edmonton
EVENING	Northern Building Workshop	Federal Government Panel	Northern Mammals The Native Curriculum	Geology-Geography Workshop Northern Mammals	Geology-Geography Workshop	Ocean Mammals	

NOTE: At times in the program there will be parallel sessions providing a choice to students.

Registration

People wishing to register for the Arctic Summer School should complete the application included at the back of this brochure. All applications received will be held until **April 15,** at which time they will be reviewed by the Administrative Committee and as many people as possible will be accepted. The reason for the review is to ensure that the available places are allocated on the most equitable basis so that every interested organization can have some representation at the School. The Committee will try to accommodate everyone who is interested, but there is a limit to the number that can be accepted.

The course fee of $960.00 (Canadian funds), plus $240.00 (Canadian funds) for the PWA group ticket, if required, should be forwarded with your application, or you should indicate on the form that your organization is to be invoiced. Invoices will be sent out with acceptance letters in mid-April and should be paid by June 1, 1974.

Further information can be obtained by contacting Charles Lockwood at the Department of Extension, The University of Alberta, Edmonton, Alberta T6G 2G4, phone (403) 432-3022.

Arctic Summer School Advisory Committee

D. Gill, Director, Boreal Institute for Northern Studies, The University of Alberta

J. Hnatiuk, Senior Project Engineer, Gulf Oil Canada Limited, Calgary

R. S. Jamieson, Assistant Director, Boreal Institute for Northern Studies, The University of Alberta

O. Kaustinen, Manager of Engineering, Polar Gas Project, Toronto

G. S. H. Lock, Professor of Mechanical Engineering, The University of Alberta

C. M. Lockwood, Assistant Director of Extension, The University of Alberta

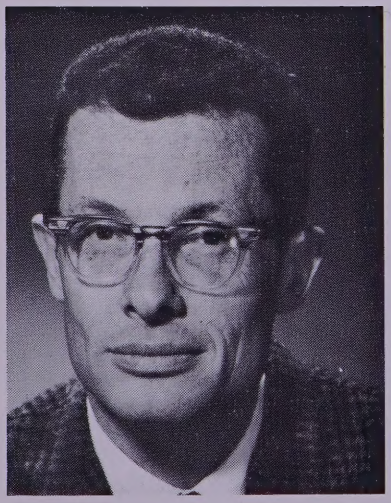
N. McPherson, Director, Department of Education, Government of the Northwest Territories, Yellowknife

W. M. Pearce, Assistant Manager, Engineering, Interprovincial Pipeline Company, Edmonton

G. Rempel, Arctic Coordinator, Imperial Oil Limited, Calgary

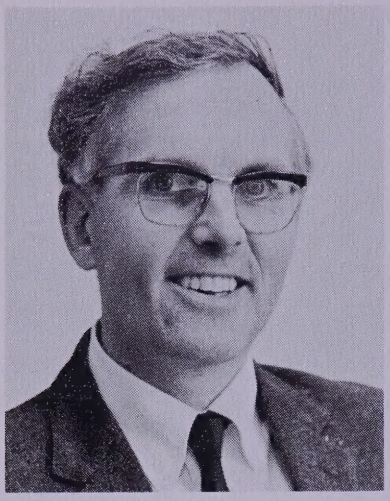
A. Sinclair, Personnel Office, The Canadian Imperial Bank of Commerce, Calgary

Don Gill is the Director of the Boreal Institute for Northern Studies and an Associate Professor in the Department of Geography, The University of Alberta. He received his B.Sc. from Northern Michigan University, his M.Sc. from the University of California (Los Angeles), and his Ph.D. from the University of British Columbia. He teaches in the subject area of the analysis of northern environmental systems. During the present academic year, he taught courses on boreal ecology and the northern physical environment. In addition, he travelled biweekly to Yellowknife where he gave a course on the northern environment. Dr. Gill's Ph.D. thesis topic in 1971 was "Vegetation and Environment in the Mackenzie River Delta—a Study in Subarctic Ecology". Currently his research has extended to environmental problems associated with northern river developments, winter ecology of ptarmigan in the Mackenzie River Delta, productivity and habitat value of the willow-equisetum ecosystem along the Mackenzie River, plus a number of environmental problems in the Yukon Territory.



Charles Hobart's university education is in the field of sociology. He received his B.A. from the University of Redlands, his M.A. from the University of Southern California, and in 1955, his Ph.D. from Indiana University. He joined The University of Alberta in 1962 and is presently Professor of Sociology.

Dr. Hobart's professional interests are in the area of social organization theory, social psychology, urban sociology and minority group relations. He has studied and written extensively on the sociological structure in Northern Canada. His list of publications include the following titles: "Native Education, Greenland and the Canadian Arctic, A Comparison"; "Non-Whites in Canada: Indians, Eskimos, Negroes"; "Eskimo Education in the Canadian Arctic"; and "Some Consequences of the Residential Schooling of Eskimos".

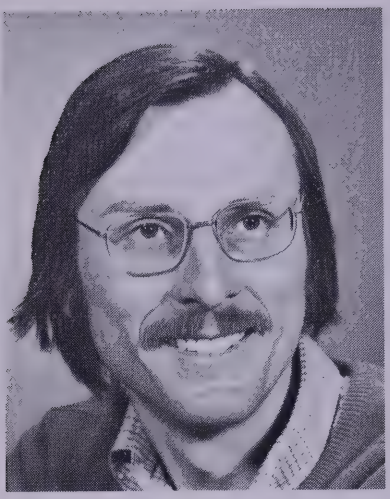


Richard St. J. Lambert is Professor and Chairman of the Department of Geology, The University of Alberta. His research and teaching interests center around geotectonics, isotope geology and chemical petrology. His present research projects include petrological and geochronological studies in the Northwest Territories, the isotope geology of petroleum deposits, and variations of oxygen isotopes in silicate systems. Dr. Lambert received his education at the University of Cambridge where he obtained his Ph.D. in 1955. His doctoral thesis was "Mineralogy of the Moine schists of part of Inverness-shire, Scotland". Dr. Lambert served as Assistant Lecturer in Petrology at the University of Leeds from 1955 to 1956, and as Lecturer with the University of Oxford from 1956 until he joined The University of Alberta in 1970.

Lawrence C. Bliss, Professor of Botany, The University of Alberta, received his B.Sc. (1951) and M.Sc. (1952) from Kent State University and his Ph.D. (1956) from Duke University. He instructed at Bowling Green State University for ten years rising from an Instructor in 1956 to Associate Professor in 1966 and then spent two years as Professor of Botany at the University of Illinois. In 1963 he received the Fulbright Research Fellowship to New Zealand, and in 1968 he joined the Department of Botany at The University of Alberta. At present Dr. Bliss is Director of the Devon Island Project of the International Biological Program and the Controlled Environmental Facility at The University of Alberta. He is currently a member of several committees including the NRC Environmental Biology Grants Selection Committee, NRC Geotechnical Subcommittee (Pipelines), and the Environmental Protection Board for Canadian Arctic Gas Study Ltd. He is a member of the following professional associations: Canadian Botanical Association, Ecological Society of North America, and the Arctic Institute of North America.

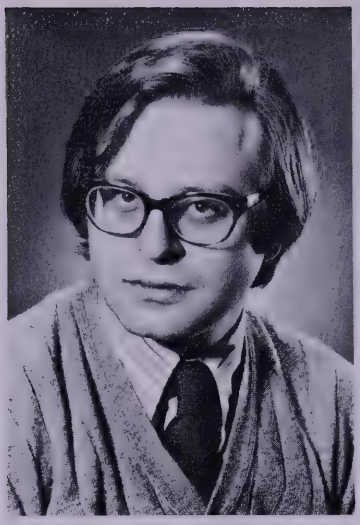
Stanley Thomson holds a bachelor's degree in civil engineering from the University of Toronto. Following graduation he joined the Royal Canadian Engineers, as a technical staff officer at Army Headquarters in Ottawa, and later at Goose Bay, Labrador. From 1954 to 1959, following the completion of a M.Sc. degree at The University of Alberta in soil mechanics, he was posted to Whitehorse, Yukon, as the Soils Engineer for the Canadian portion of the Alaska Highway. Subsequently, he completed a Ph.D. at The University of Alberta and joined the teaching staff of the Department of Civil Engineering. While in the Faculty of Engineering, Dr. Thomson completed requirements for a B.Sc. in geology and was granted the degree in 1971. During that same year (while on sabbatical leave), Dr. Thomson carried out research work at the U.S. Army Cold Regions Research and Engineering Laboratory at Hanover, New Hampshire. He is a member of the Engineering Institute of Canada, and is registered as a Professional Engineer in Alberta and the Yukon Territory.

Gerry Rempel is an Arctic Planning Advisor for Imperial Oil Limited, Calgary, Alberta. Mr. Rempel graduated in physics from the University of Saskatchewan in 1947. Following a year of postgraduate work, Mr. Rempel joined Imperial Oil in 1948. He has held various positions of responsibility such as Seismic Party Chief, Exploration Equipment Engineer, Geophysical Operations Supervisor, and Arctic Co-ordinator for Imperial Oil.



Ken Babcock received his education in geology and remote sensing at Union College and Syracuse University, New York, and graduated in 1969 with a Ph.D. in geology from the University of California, Riverside. While at the University of California, his work involved field and photo mapping. From 1966 to 1969 he was associated with the USGS - NASA remote sensing project which included interpretation and evaluation of multisensor imagery for geologic mapping. For a brief period before he accepted an appointment in 1969 as Assistant Professor of Geology, The University of Alberta, he was employed with Sun Oil in stratigraphic geology, and Vester Explorations in evaluating claims in Northeastern Alberta. Dr. Babcock has produced several publications on infrared aerial photography, remote sensing, as well as structural geology and tectonics. His current interests are the application of remote sensing to geologic mapping and environmental geology, especially urban geology and land use planning.

Arthur Pearson is a Research Scientist with the Canadian Wildlife Service, Environment Canada. He obtained his Bachelor of Science in Honors Zoology and his Master of Science from the University of British Columbia. In 1962 he obtained his Ph.D. at the University of Helsinki, Finland. His dissertation involved a comparison of adaptive features that enable small mammals to survive in the rigorous northern environment. Dr. Pearson has spent nine years with the Canadian Wildlife Service in the Yukon Territory. Besides his ecological advisory responsibility to the Commissioner and Council of the Yukon Territory, he has also been engaged in long term research of large mammals in the Territory. His major research project was a six-year ecological study of the grizzly bear in southwestern Yukon Territory, the results of which will be published shortly. He has travelled extensively throughout the territory and has accumulated a large collection of plants and mammals which provide an insight into the zoogeography of Canada's northwest. He is currently working out of the Regional Office of the Canadian Wildlife Service in Edmonton.



Michael I. Asch is Assistant Professor of Anthropology, The University of Alberta. He received his B.A. in anthropology at the University of Chicago in 1965 and his Ph.D. at Columbia in 1972. Research for his doctoral dissertation was undertaken among the Slavey speaking Indians in the N.W.T. Dr. Asch's primary areas of professional interest include social structure, musicology, and ethnology of the Northern Athapaskan Indians. He is currently engaged in research into the ethnohistory and pre-contact social organization of the Slavey Indians of the N.W.T.

John Shaw studied at the University of Reading, England, where he obtained a B.Sc. in geography, geology and mathematics. His Ph.D., also from the University of Reading, was granted in 1969 for work in glacial sedimentology. During his graduate days, he was a visiting postgraduate student at the Geomorphological Laboratory, University of Uppsala, Sweden. Dr. Shaw's interest in modern processes of glacial sedimentation was developed during two expeditions to the Svartisen ice cap in Arctic Norway. Since taking up a position in the Department of Geography, The University of Alberta, he has continued his research in the Rockies and Northern Alberta. His publications deal with the origin of landforms, and the distributions and properties of surficial deposits.

Organizations with participants in the 1971, 1972 and 1973 Arctic Summer Schools.

Air Logistics Corporation
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Alberta and Southern Gas Company Limited
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Associated Engineering Services Ltd.
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Canadian Arctic Gas Study Limited
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Canadian National Railways
Canadian National Telecommunications
Canadian Pacific Ltd.
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De Leuw, Cather & Company of Canada Limited
Dillingham Corporation Canada
Dominion Bridge Company Limited
Dow Chemical of Canada Limited
Elf Oil Exploration and Production Canada Limited
Environmental Protection Service
Fluor Engineers and Constructors
Gas Arctic Systems Study Group
Geological Survey of Canada
Government of Alberta—Department of Mines and Minerals
Government of Canada—Department of Communications, Department of the Environment, Department of Indian and Northern Affairs, Department of Public Works, Marine Hydraulics Branch, Ministry of Transport
Government of the Northwest Territories—Department of Industry and Development, Municipal Affairs
Government of Ontario—Department of Transport and Communications
Gulf Oil Canada Limited
H. L. Blachford Limited
Hudson's Bay Oil & Gas Company Limited
Humble Oil & Refining Company
Imperial Oil Limited
Imperial Oil Enterprises Ltd.
Interprovincial Construction Limited
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Royal Military College
Shell Canada Limited
Stearns—Roger Canada Limited
Tanner Arctic Oil
Tennessee Gas Pipeline Company
Texas Eastern Transmission Corporation
The Boeing Company
The Offshore Company
Trans-Canada Pipelines
The University of Alberta—Department of Civil Engineering, Department of Anthropology, Department of Botany, Department of Sociology, Department of Geography, Department of Zoology, Boreal Institute for Northern Studies
The University of Calgary—Department of Sociology and Anthropology
Union Oil Company of Canada Ltd.
University of Manitoba—Centre for Settlement Studies
University of New Brunswick—Department of Geology
University of Toronto—Department of Civil Engineering
Universite du Quebec a Chicoutimi, Quebec, Centre de Recherche du Moyen Nord
Williams Brothers Canada Limited

APPLICATION FORM

To: The Director
Department of Extension
The University of Alberta
Edmonton, Alberta

Please register me in the Arctic Summer School to be held in Inuvik, N.W.T., from June 29 to July 12, 1974.

NAME: .....

TITLE: .....

ORGANIZATION: .....

ADDRESS: .....

.....

BUS. TELEPHONE ..... RES. TELEPHONE .....

☐ My fee of $960 (Canadian funds) is enclosed.

☐ Please invoice my organization for the course fee of $960 (Canadian funds).

I would like to fly with the group from Edmonton on June 29 and return July 12.

☐ An additional $240 (Canadian funds) is included with my enclosed cheque.

☐ Please add $240 (Canadian funds) onto the invoice you send my organization.

Signed .....

Date Due

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